KAHOUN, V., inz.

Examination of the inductance capacity of the winding of electric machines and apparatus by the electric analogy method. El tech obzor 53 no.11:614-616 N '64.

KAHUDA, Frantisek, doc., dr.

Schools and technology. Nova technika no.9:385-388 S '60.

1. Ministr skolstvi a kultury.

KAHRITONOV, Yu.Ya.; BOCHKAREV, G.S.; ZAYTSEV, L.M.

Infrared absorption spectra of complex zirconium (IV) oxalates. Zhur. neorg. khim. 9 no.6:1369-1381 Je '63 (MIRA 17:8)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN SSSR.

KAHU, Gelu, ing.; SBURLAN, C., ing.

At the place where 3250/4500 dwt cargo boats are constructed.
St si Teh Buc 15 no.5:23-25 My '63

1. Planning Technical Director, Galati Shipyard (for Kahu).
2. Galati Shipyard (for Sburlan).

KAHULITS, Laszlo

Superiority of socialist social order. Munka 10 no.4:3-4 Ap '60.

1. "Trasadalmi Szemle" munkatarsa.

KAHUSKA, S. ; BERKA, L.

Production regions in lumbering. p. 254. (SBORNIK RADA LESNICTVI. Praha) (Vol. 30, no. 3, Mar. 1957)

SO: Monthly List of East European Accession (EEAL) LC, Vol. 6, No. 7, July 1957. Uncl.

KAHY, L.M.; KOVALENKOVA, M.V.; KORNEVA, Ye.A.; SERANOVA, A.Ye.

Further study of the hypothalamus area in the regulation of the immunogenesis process. Zhur. mikrobiol., epid. i immun. 41 no.10:7-12 '64. (MIRA 18:5)

1. Institut eksperimental'noy meditsiny AMN SSSR, Leningrad.

KAI, Ju

Effect of chlorpromazine on lipid, lipoprotein and protein level and on lipoprotein lipase activity in human blood serum. Polskie arch. med. wewn. 31 no.6:807-818 '61.

1. Z II Kliniki Chorob Wewnetrznych AM w Warszawie Kierownik: prof. dr med. D. Aleksandrow.

(CHLORPROMAZINE pharmacol) (LIPIDS blood)
(BLOOD PROTEINS pharmacol) (LIPOPROTEIN LIPASE blood)
(LIPOPROTEINS blood)

KSIAZKIEWICZ, M.

Problems of the Carpathian stratigraphy against the background of paleogeography, a paper read at the Scientific Section Session of the Carpathian Astation of thePolish Institute of Geology.

P. 445. (Prezglad Geologiczny, Vol. 4, no. 10, Oct. 1956. Warszawa, Poland)

Monthly Index ofEAst European Accessions (EEAI) LC.Vol. 7, no. 2,
February 1958

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BULGARIA

P. A. KAICHEV, author of " Spiral growth and overvoltage in the case of silver electrodeposition," presented at the 4th Electrochemical Conference, Moscow, 1-6 Oct. 1956.

SOURCE: Program of the 4th Int'l Conference on Electrochemistry, Moscow, 1-6 Oct. 1956, Unclassified.

KAIDOR, Antal, dr.; NEMET, Gyula, dr.

[redacted]

Eosinophilia in pleural exudate in isoniazid therapy. Orv. hetil. 97 no.27:750-751 1 July 56

1. Magyar Nephadsereg Egeszegugyi Szolgalata.
(EXUDATES AND TRANSUDATES
pleural exudate, eosinophilia in isoniazid ther. (Hun))
(EOSINOPHILIA
in pleural exudate in isoniazid ther. (Hun))
(NICOTINIC ACID ISOMERS, inj. eff.
isoniazid, causing eosinophilia in pleural exudate
(Hun))

MNDZHOYAN, A.L.; KALDRIKYAN, M.A.

Derivatives of benzofuran. Report No.8: Synthesis of N-alkyl-N-benzofurfuryl-N', N'-dialkylpolymethylenediamines. Izv.AN Arm.SSR.-Khim.nauki 15 no.1:85-94 '62. (MIRA 15:7)

1. Institut tonkoy organicheskov khimii AN Armyanskoy SSR.
(Benzofuran) (Polymethylene compounds)

KAIDZHIEV, D.

Uninterrupted development. p. 39.

Vol. 10, no. 9, Sept. 1955
KOOPERATIVNO ZEMEDELIE
Sofiya, Bulgaria

So: Eastern European Accession Vol. 5 No. 1 Jan. 1956

KAIDZHIEV, D.

Highly productive animals. p. 21.
KOOPERATIVNO ZEMEDELIE, Sofiya, Vol. 11, no. 1, Jan. 1956.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 6 June 1956, Uncl.

KAIDZHIEV, D.

"Competition Between Two Agricultural Cooperatives." P. 10, (KOOPERATIVNO ZEMEDELIE, Vol. 9, No. 9, 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4 No. 5, May 1955, Uncl.

KAIFASZ, S.

KAJFASZ, S. Prestressed concrete abrpad and in Poland. p. 1

Vol. 5, no. 10, Oct. 1956
BUDOWNICTWO PRZEMSLOWE
POLITICAL SCIENCE
Warszawa, Poland

So: East European accession Vol. 6, no. 3, March 1957

KAIFOSZ, JOSEF

Present state of γ-scintillation spectrometry. Josef Kaifosz and Jiři Kopecký (Czech. Acad. Sci., Prague). *Jaderná Energie* 6, 272-8(1960).—The following are discussed: a comparison of scintillation and other types of γ-spectrometers; various types of scintillation spectrometers (single-crystal, anticoincidence, Compton coincidence, and pair formation), and a comparison of their light efficiency, resolution, and "purity" of spectrum; new ways of improving resolution; new modification of app. (stabilization of photomultiplier amplification, automatic recording, multichannel analyzers); new methods (analyzer with const. relative channel width, subtracting spectra produced with anthracene or stilbene and NaI(Tl), "addn." spectrometer which adds impulses due to Compton photons and electrons). The possibility of a universal spectrometer is mentioned.

H. Newcombe

3

KAIGL, OLDRICH

CZECHOSLOVAKIA / Chemical Technology. Chemical Products and Their Applications. Synthetic Polymers. Plastics. H-29

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 10139.

Author : Kaigl, Oldřich, Kral, František
Inst : Not given.
Title : Study of Plastics Deformation by the Method of Cone Penetration.

Orig Pub: Chem. prumysl, 1957, 7, No 1, 44-49.

Abstract: A study was conducted of cone penetration in plasticized polyvinylchloride and polyamid of native production under stress and the return to its original state after stress removal. A method is given for evaluation of tests and results. The relation is noted between values of hardness and creep and the possibility of apply-

Card 1/2

KAIGL, O.; KRAL, F.

New rubber packing rings for Czechosloviak railways. p.250.

ZELENZNICNI DOPRAVA A TECHNIKA. (Ministerstvo dopravy)
Praha, Czechoslovakia
Vol. 7, no. 8, 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11.
Nov. 1959
Uncl.

KAIKA, V.V., inzh.

Explosionproof variable-speed asynchronous motors. Prom. energ. 19 no.11:55-57 N '64.

(MIRA 18:1)

M

Country : USSR
Category: Cultivated Plants. Medicinal. Essential Oil-Bearing. Toxins.

Abs Jour: RZhBiol., No 22, 1958, No 100501

Author : Kaikaris, A.
Inst : Kaunas Medical Institute
Title : Comparative Value of Certain Species of Valerian in Relation to the Time of Collecting the Raw Material.

Orig Pub: Kauno med. inst. darbai, Tr. Kaunassk. med. in-ta, 1957, 5, 199-206

Abstract: A comparative evaluation of three medicinal species of valerian (Valeriana dubia Bge., Valeriana nitida Kr. and Valeriana wolgensis

Card : 1/3

KALKOWSKI, W. J.

CA

11 I

Influence exerted by hydrogen-ion concentration on the development of eggs of the pond snail (Limnaea stagnalis L.). W. J. Kalkowski (Jagellonian Univ., Kraków). *Bull. intern. acad. polon. sci. Classe sci. math. nat.* 1948, BII, 1-25(in English).—At 20°, eggs of this snail do not develop below pH 4.0 or above pH 8.5; between 4.0 and 5.0 and at 8.5 development starts in some eggs but is not completed; between 5.5 and 6.0, 7.0 and 7.6, and 8.0 and 8.2 no changes in speed of development occur. Greatest speed of development takes place between 7.0 and 7.8 (optimal range) and slowest speed at 5.0 and 8.2. The optimum pH for development is 7.3. In passing from the crit. pH to the optimal pH, the percentage of completely undeveloped eggs in general decreases. No difference in development of the eggs was noted between solns. in which HCl or citric acid furnished the H-ion concns. An artificial medium contg. phosphates was more favorable for egg development than tap water of the same pH and temp. Evidently pH has a restricting influence on the ecological distribution of this snail. C. H. R.

KAIL, Endre

Significance of the disc brake in railroad operation and some Hungarian experiences. Jarmu mezo gep 6 no.12:353-365 '59.

KAIL, Endre, inzh.

Computing braking paths for disk brakes. Zhel.dor.transp. 42 no.10: 86-89 O '60. (MIRA 13:10)

1. Konstruktor vagonostroitel'nogo zavoda v g.D'yer, Vengriya.
(Hungary--Railroads--Brakes)

KAIL, Ludek; MARKOVA, Dagmar, inz.

Use of plastics for packaging in the canning industry and their comparison with conventional containers. Prum potravin 13 no.3:129-133 Mr '62.

1. Stredoceska Fruta, n.p., Mochov (for Kail). 2. Obalovy ustav, Praha (for Markova).

RYCHLIKOVA, M.; KAILOVA, E.

Growth of tumor tissue in synthetic media. Fol.biol., Praha 1
no.1:11-18 2 Feb. 55.

1. Biologicheskiy institut ChSAN, biologiya tkaney, Praga
(NEOPLASMS, experimental,
Crocker & Rous sarcomas, tissue culture in synthetic media)
(SARCOMA, experimental,
Crocker & Rous sarcomas, tissue culture in synthetic media)
(TISSUE CULTURE,
culture of Crocker & Rous sarcomas in synthetic media)

KAIM, A.

It is possible to increase the total production of animal products rapidly.

p. 387 (Sotsialistlik Pollumajandus) Vol. 12, no. 9, Sept. 1957, Tallin, Estonia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

KAIM, Ariana, chim.; POP, Eleonora, chim.

Determination of total carbon in silicium carbide. Industria usoara 10 no.2:69-70 F '63.

KAIM F [illegible]

KAIM, Franciszek

KAIM, Franciszek: "Key Problems of Metallurgical Industry and Technology Requiring Scientific Development in Poland," Hutnik, No. 1, Stalinogrod, Jan 56, pp 5-11.

KAIM, Franciszek, mgr inz.

First of May deliberations. Wiad hut 15 no.5:138-140 My '59.

1. Podsekretarz Stanu w Ministerstwie Przemyslu Ciezkiego, Warszawa.

KAIM, Franciszek, mgr.,inz.

Plans and assignements of Polish metallurgy. Przegl techn 81 no.18: 4-6 '60.

1. Wiceminister Ministerstwa Przemyslu Ciezkiego.

KAIM, Franciszek, mgr., inz.

The Lenin Foundry, a leading position in Polish metallurgy.
Przegl techn 81 no.19:9-11 '60.

1. Wiceminister Przemyslu Ciezkiego.

P/005/61/000/006/002/005
A076/A026

AUTHOR: Kaim, Franciszek, Master of Engineering, Vice Minister

TITLE: Technical Progress in Iron and Steel Industry

PERIODICAL: Przegląd Techniczny, 1961, No. 6, pp. 6 - 7

TEXT: The coming 5-year plan of the Polish iron and steel industry calls for a considerable production increase. It is expected that about 14.5 million tons of coke, 6.9 million tons of pig iron, 9.3 million tons of steel and 6.350 million tons of rolled products will be manufactured by 1965. This will be achieved by raising the production capacity of the "Lenin" steel plant to 3.3 million tons annually, and by completing the first production phase of the "Warsaw" steel plant which production, during the first production phase will reach about 300.000 tons annually. Further, outdated machinery, production processes and production sections of the steel plants "Kościuszko", "Pokój", "Bobrek", "im. Feliks Dzierżanowski", "Batory" and "Baildon" will be modernized. In coke production various types of coal will be utilized; coke charges will be enriched by adapting the petrographic enriching method, which was successfully developed by the Instytut Chemicznej Przeróbki Węgla (Institute of Chemical Coal Processing). This meth-

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Technical Progress in Iron and Steel Industry

P/005/61/000/006/002/005
A076/A026

be used in steel production. In order to maintain a high quality of steel products, the vacuum steel production method will be adapted.

ASSOCIATION: Przemysł Ciężki (Heavy Industry)

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Card 3/3

KAIM, Franciszek, mgr inz.; MOTAWA, Tadeusz, mgr inz.; GOSZYK, Oskar, mgr inz.; SZNUK, Witold, mgr inz.

On the occasion of the 10th anniversary of Koksoprojekt (1953-1963). Problemy proj hut maszyn 11 no. 6: 163-167 Je '63.

1. Wiceminister Przemyslu Ciezkiego, Warszawa (for Kaim).
2. Dyrektor Departamentu Inwestycji, Ministerstwo Przemyslu Ciezkiego, Warszawa (for Motawa)
3. Dyrektor Techniczny Zjednoczenia, Hutnictwa Zelaza i Stali, Katowice (for Goszyk)
4. Dyrektor do spraw Inwestycji, Zjednoczenie Hutnictwa i Stali, Katowice (for Sznuk).

KAIM, Franciszek, mgr inz.

Acheivements of iron metallurgy during the 20-year period of the Polish People's Republic and its further development trends. Przegl techn 85 no.19:1,5 10 My'64.

1. Zastepca ministra Przemyslu Ciezkiego do spraw Hutnictwa, Warszawa.

KAIM, Franciszek, mgr inz.

Greetings on the occasion of the Metallurgist's Day. Wiad hut 15 [i.e. 20] no.5:133 My '64.

1. Deputy Minister of Heavy Industry for Metallurgic Affairs, Warsaw.

KAIM, G.A.

Use of a fluidized bed for the magnetization roasting of iron ores.
Obog. rud 6 no.3:34-36 '61. (MIRA 14:11)
(Iron ores) (Fluidization)

POPA, M.; KAIM, N.

Polarographic determination of diethylaminopropiophenone (Tonuat). Rev chimie Min petr 13 no.2:113 F '62.

STERESCU, M.; KAIM, N.

Intermediate products obtained from the synthesis of diethylaminopropiophenone (Tenuat). Rev chimie Min petr 13 no.2:114 F '62.

STERESCU, M.; KAIM, N.

Determination of the testosterone phenylpropionate in the presence of testosterone. Rev chimie Min petr 13 no.3:172 Mr '62.

STERESCU, M.; KAIM, N.

Dosing of bishydroxydihydroquinoxaline and bishydroxyquinoxaline as intermediate phases in the synthesis of 2-sulfanilamidequinoxaline (sulfaquinoxaline). Rev chimie Min petr 12 no.7: 421 Jl '61.

Kaimakchiev, G.

KONFORTI, B., Dots.; KAIMAKCHIEV, G.

Compression arthrodesis of the knee joint and technic of compression. Khirurgiia, Sofia 9 no.10:879-884 1956.

1. Institut za spetsializatsiia i usuvurshenstvuvane na lekarite-Sofiia Direktor: prof. B. Boichev.

(KNEE, surgery,
arthrodesis, technic of compression (Bul))

KAIMAKCHIEV, G.

Talipes cavus as a sequel of pes equinovarus and its surgical therapy. Khirurgiia 15 no.8:739-743 '62.

1. Institut po protezirane, vuzstanovitelna khirurgiia i trudoustroistvo. Direktor: dots. IA. Kholevich.

(CLUBFOOT)

KAIMAKCHIEV, G.

Surgical treatment of elbow extension contracture in arthrogryposis multiplex congenita. Khirurgiia (Sofiia) 16 no.6: 539-543 '63.

1. Institut po vuzstanovitelna khirurgiia, protezirane i trudoustroistvo. Direktor: Dots. IA. Kholevich.
(ELBOW) (SURGERY, OPERATIVE) (JOINT DISEASES)

KAIMAR, E.

What kind of assistance could be given by radiology to metallurgy? p. 305 KOHASZATI LAPOK, (Magyar Banyaszati es Kohaszati Eghesulet) Budapest, Vol 11, No. 7, July, 1956

SO: EEAL, Library of Congress, Vol 5, No. 11, November, 1956

KALMAR, L.

On Church's hypothesis which serves for basis for research related to the so-called insolvable mathematical problems. p. 19. (Magyar Tudomanyos Akademia, Vol. 7, No. 1, 1957, Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

KAIMOV, M.

Gasification of cities in Kuybyshev Province. Zhil.-kom. khoz. 8 no.9:16-17 '58. (MIRA 11:10)

1. Zaveduyushchiy otdelom kommunal'nogo khozyaystva Kuybyshevskogo oblispolkoma.

(Kuybyshev Province--Gas distribution)

KALMYKOV, G.I.

Solution of a certain type of diffusion equations. Trudy Mat. inst. 71:62-77 '64. (MIRA 18:2)

KALMYKOV, V.G., kand. tekhn. nauk

Special-purpose narrow-gauge freight cars. Zhel. dor. transp. 46 no. 10:77-79 O '64. (MIRA 17:11)

KAIN, B.

Problems of providing civil aviation with new transport planes. p. 439.

REVISTA TRANSPORTURILOR. (A sociatia Stiinfica A Inginerilor si Tehnicienilor din Rominia si Ministerul Transporturilor Rutier, Navale si Aeriena) Bucuresti, Romania. Vol. 6, No. 10. oct 1959

Monthly List of East European Accessions (EEAI) LC Vol. 9, no. 2, Jan 1960

Uncl.

KALNBERZINS, J.

GENERAL
PERIODICALS: VESTIS No. 2, 1958

KALNBERZINS, J. To Academician Professor Janis Endzelins. p. 5.

Monthly list of East European Accessions (EEAL) LC, Vol. 8, No. 2.
February 1959, Unclass.

KALINENKO, V.O.

On the structure of Bac. mycoides.

Mikrobiologiya. Vol. 21, P. 171. 1952.

KAINER, Gyula; KOVACS, Denes, dr.;

Effect of the December 10, 1961, price fixing on food turnover. Stat szemle 41 no.3:272-279 Mr '63.

1. Belkereskedelmi Miniszterium osztalyvezetoje.

135-58-7-6/20

AUTHOR: Tret'yakov, F.Ye., Candidate of Technical Sciences, and Kalnova, G.Ye., Engineer

TITLE: The Strength of Various Types of Contact Welded Joints in "VT1" Titanium (Prochnost' razlichnykh tipov soyedineniy titana VT1 vypolnennykh kontaktnoy svarkoy)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 7, pp 19-23 (USSR)

ABSTRACT: The article presents information on the results of experiments carried out by the plant together with NIAT under the direction of M.A. El'yasheva, Candidate of Technical Sciences. The mechanical properties and the chemical composition of base metal used for the experiments, the welding technology, the shape of specimens and the results of experiments are given in tables. The following conclusions are made: 1) the strength coefficient of roller welded butt joints with straps and overlap joints in "VT1" titanium under static load, at room and higher temperatures, is 0.9 to 1.0; 2) the strength of double-row spot welded overlap and butt joints, with straps under static and cyclic load of low frequency, is higher than that of single-row spot joints. Under high-frequency cyclic load, the double-row spot welds have the same strength as the single-row welds but are

Card 1/2

135-58-7-6/20

The Strength of Various Types of Contact Welded Joints in "VT1" Titanium

inferior in respect to weight; 3) reduced distances between spots improve the strength of joints. Under high-frequency cyclic load, there exists an optimum of the interspot distance at which a base metal of given thickness is fully utilized; 4) the endurance limit of spot and roller welded joints under cyclic load of high frequency is very low, therefore it is necessary to find better forms of joints for "VT1" titanium joints under such working conditions; 5) the strength of welded joints under cyclic load drops with rising temperatures to a lesser degree than the strength of base metal.
There are 7 tables, 1 photo and 6 graphs.

1. Spot welds--Mechanical properties 2. Welded joints--Test results

Card 2/2

Welding aluminum alloy... S/135/62/000/006/008/014
A006/A106

18 kg/mm^2 at normal temperature, due to sharp stress concentration at the welding boundary. At a high temperature, the effect of stress concentration decreases. At 300°C, the strength of the weld joints and the base metal is equal. The VAD1 alloy can be used for the manufacture of welded structures operating at temperatures up to 400°C. Further investigations on the corrosion resistance of VAD1 welds are imperative. There are 3 tables and 5 figures.

Card 2/2

NIKIFOROV, G.D., kand.tekhn.nauk; SILANT'YEVA, S.A., inzh.; KAINOVA, G.Ye., inzh.

Measures to control porosities in welding the AMg6 alloy. Svar. proizv. no.1:26-29 Ja '63. (MIRA 16:2)

1. Moskovskiy aviatsionnyy tekhnologicheskiy institut.
(Aluminum-manganese alloys--Welding)

ANTONOV, Ye.G., inzh.; KAINOVA, G.Ye., inzh.; ROGOZHKINA, I.K., tekhnik

"Flexible" chamber for argon-arc welding of titanium structures.
Svar.proizv. no.12:34-35 D '64. (MIRA 18:1)

EWT(m)/EWP(k)/T/EWP(w)/EWP(v)/EWP(t)/ETI IJP(c) JD/HW/HM/GD

ACC NR: AT6012404

SOURCE CODE: UR/0000/65/000/000/0289/0294

AUTHORS: Shorshorov, M. Kh.; Kainova, G. Ye.; Smirnov, B. A.; Meshcheryakov, V. N.

ORG: none

27

40

TITLE: Rational regimes of mechanical-thermal treatment of titanium alloy VT15 and its welded joints 15 11 18 B+1

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 289-294

TOPIC TAGS: mechanical property, titanium alloy, metal property, metal welding, weld heat treatment/ VT15 titanium alloy

ABSTRACT: The effects of quenching temperature and subsequent mechanical-thermal treatment regimes on the structure and mechanical properties of titanium alloy VT15 and its welded joints were experimentally investigated on 2-mm thick specimens at the Metallurgy Institute im. A. A. Baykov (Institut metallurgii). After argon-arc welding (single pass), the specimens were quenched from 800, 1000, and 1200C in water, followed by aging (480C for 18 hrs, 560C for 15 min). Dilatometric and microstructural observations of the kinetics of phase transitions were made, and some results are presented and discussed. Based on these observations, several rational methods for increasing the strength and plastic properties of welded seams were attempted with the following

Card 1/2

KIM, V.A.; KAIPOV, A.D.; GEKHT, I.I.

Pyrophyllite and rocks containing pyrophyllite from the Akbastau pyrite-complex metal deposit. Trudy Inst.geol.nauk AN Kazakh.SSR 7:266-272 '63. (MIRA 17:9)

KANOV, A. N. (Mech Eng)

KANOV, A. N. (Mech Eng) -- "Investigation of the Free Play of Wheels with Pneumatic Tires When Used in Agricultural Conditions." Sub 26 Mar 52, Mo Cow Inst of Mechanization and Electrification of Agriculture imeni V. M. Molotov (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Vechernaya Moskva, January-December 1952 [illegible], A. P.

Gardening - Equipment and Supplies

Creating electrical hand tools for garden and orchard work. Sel'khozmashina, No. 7, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

KAIPOV, A.N.

[illegible]

Pneumatic tires for farm machines. Sel'khozmashina no.8:20-22 Ag'55. (MIRA 8:11)

(Tires, Rubber)

VOLKOV, Yu.I., inzh.; GAFANOVICH, A.A., kand.tekhn.nauk; GLADKOV, N.G.,
kand.sel'skokhoz.nauk; GORKUSHA, A.Ye., agr.; ZHITNEV, N.P., inzh.;
ZANIN, A.V., kand.tekhn.nauk; ZAUSHITSYN, V.Ye., kand.tekhn.nauk;
ZVOLINSKIY, N.P.; ZEL'TSERMAN, I.M., kand.tekhn.nauk; KAIPOV, A.N.,
kand.tekhn.nauk; KASPAROVA, S.A., kand.sel'skokhoz.nauk; KOLOTUSHKINA,
A.P., kand.ekon.nauk; KRUGLYAKOV, A.M., inzh.; KURNIKOV, I.I., inzh.;
LAVRENT'YEV, L.N., inzh.; LEBEDEV, B.M., kand.tekhn.nauk; LEVITIN,
Yu.I., inzh.; MAKHLIN, Ye.A., inzh.; NIKOLAYEV, G.S., inzh.;
POLESHCHENKO, P.V., kand.tekhn.nauk; POLUNOCHEV, I.M., agr.; P'YANKOV,
I.P., kand.sel'skokhoz.nauk; RABINOVICH, I.P., kand.tekhn.nauk;
SOKOLOV, A.F., kand.sel'skokhoz.nauk; STISHKOVSKIY, A.A., inzh.;
TURBIN, B.G., kand.tekhn.nauk; CHABAN, I.V., inzh.; CHAPKEVICH, A.A.,
kand.tekhn.nauk; CHERNOV, G.G., kand.tekhn.nauk; SHMELEV, B.M., kand.
tekhn.nauk; KRASNICHENKO, A.V., inzh., red.; KLETSKIN, M.I., inzh.,
red.; MOLYUKOV, G.A., inzh., red.; BLAGOSKLONOVA, N.Yu., inzh., red.;
UVAROVA, A.F., tekhn.red.

[Reference book for the designer of agricultural machinery in two volumes] Spravochnik konstruktora sel'skokhoziaistvennykh mashin v dvukh tomakh. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry. Vol.1. 1960. 655 p. (MIRA 13:11)
(Agricultural machinery--Design and construction)

L 9966-63 ENT(m)/EWP(a)/EPF(c)/EPF(n)-2/EWP(b)
AFWL/ASD(a)-5/AS(mp)-2/[illegible] Pq-4/Pr-4/Ps-4 [illegible]

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[illegible] the influence of [illegible]

[illegible]

L 9366-65

ACCESSION NR: AT4046905

the maxima at 620 [illegible] It is concluded that germanium impurities, as well

Card 2/3

ACCESSION NR: [illegible]

ENCLOSURE: 01

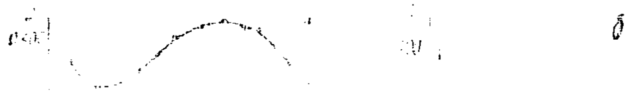

Fig. 1. Absorption spectra of crystalline quartz activated by germanium: a - natural [illegible] synthetic crystal [illegible]

L 43833-66 EWP(e)/EWT(m)/EWP(t)/ETI IJP(c) JD/GO/WH

ACC NR: AP6030667 SOURCE CODE: UR/0166/66/000/004/0050/0052

AUTHOR: Vakhidov, Sh.; Ikramov, G.; Kaipov, B.

54
53

ORG: Institute of Nuclear Physics, AN UzSSR (Institut yadernoy fiziki AN UzSSR)

TITLE: Some features of radiative centers in synthetic quartz activated with germanium

15
27

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 4, 1966, 50-52

TOPIC TAGS: impurity center, crystal lattice defect, activated crystal, irradiation damage, irradiation effect, QUARTZ CRYSTAL

ABSTRACT: Electron paramagnetic resonance (EPR) was used in an investigation of the radiative defects in crystalline quartz activated with impurities of germanium, aluminum, and some alkali metals. Specimens 1 x 4 x 10 mm were irradiated from a Co^{60} source at 380 r/sec. The irradiation temperature was varied from the boiling point of liquid nitrogen and up. During the measurement of the EPR spectrum the principal optical axis of the specimen was placed parallel to the direction of the magnetic field. The spectral lines were designated in the same manner as in a previous work by the author (Vakhidov, Sh.,

Card 1/2

KAIPOV, D.

KAIPOV, D.: "Investigation of nucleoactive slow mesons formed by cosmic rays". Alma-Ata, 1955. Min Higher Education USSR. Kazakh State U imeni S. M. Kirov. Physicotechnical Inst, Acad Sci Kazakh SSR. (Dissertations for the Degree of Candidate of Physicomathematical Sciences.)

So: Knizhnaya letopis' No. 49, 3 December 1955. Moscow

KAIPOV D.

1. TAKIBAYEV, ZH. - CSTYAKOV, M. - KAIPOV, D.

2. USSR (600)

4. Cosmic Rays

7 Absorption of star-forming component of cosmic rays at a height of 4,000 meters. Zhur.eksp.i teor.fiz 23 no. 4, 1952

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

Kaipov D

C-3

Category : USSR/Nuclear Physics - Elementary Particles

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 398

Author : Kaipov, D., and Chasnikov, I.

Title : On the Mass Spectrum of σ- Mesons.

Orig Pub : Vestn. AN Kaz SSR, 1956, No 5, 68-71

Abstract : Analyzing photographic plates, exposed under absorbers having various atomic numbers, the authors call attention to the fact that in the case of lead one observes a relatively large number of four and five-ray σ-stars. Because of this, a systematic determination of the masses of the σ-mesons was undertaken, with particular attention to four-and five-ray stars. Using the constant deflection method, the masses of 33 σ-mesons, as well as of 10 μ-mesons and 7 π-mesons, were determined. Assuming $m_{\mu} = 209 m_e$, the result obtained was $m_{\pi} = 275 \pm 12$, m_{σ} (1 and 2 ray) $= 260 \pm 20 m_e$, and m_{σ} (4 and 5 ray) $= 472 \pm 60 m_e$. Spectral distributions are given, which show that the mass of σ -mesons corresponding to four - and five-ray stars ranges from 400 -- 500 up to 1,000 m_e, and the mass of σ -mesons and of π-mesons corresponding to one and two ray stars range only up to 300 -- 430 m_e. Analogous results were obtained by processing data obtained in another experiment using the flash count and range method. It is thus the

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Category : USSR/Nuclear Physics - Elementary Particles C-3

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 398

opinion of the authors that the resultant data indicate the existance of nuclearly-active mesons with a mass of 500--600 m_e. The frequency of appearance of such mesons does not exceed 7% of the total number of π-mesons, generated in heavy elements.

Card : 2/2

KAYPOV, D

USSR/Nuclear Physics - Cosmic Rays, C-7

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34126

Author: Kaipov, D., Takibayev, Zh.

Institution: Physicotechnical Institute, Academy of Sciences Kazakhstan SSR

Title: Formation of Mesons in Nuclei of Pb, Cu, and C Under the Influence of Cosmic Rays in the Stratosphere

Original Periodical: Zh. eksperim. i teor. fiziki, 1956, 30, No 3, 471-476

Abstract: An investigation was made of the cross section of the formation of mesons in various nuclei. It is found that the character of the increase in the cross section of the meson formation at high and low energies is different.

1 of 1

56-4-8/52

AUTHOR KAIPOV, D.K., TAKIBAYEV, Zh.S.

TITLE The Generation of Slow π-Mesons by Particles of Cosmic Radiation.
(Generatsiya medlennykh π-mezonov chastitsami kosmicheskikh luchey.- Russian)

PERIODICAL Zhurnal Eksperim.i Teoret.Fiziki,1957,Vol 32, Nr 4, pp 690-696(U.S.S.R.)
Received 7/1957 Reviewed 8/1957

ABSTRACT
It was established that probably the generating particles are neutrons
of cosmic radiation. It is necessary to investigate the flux of π-me-
sons which are generated from the air and surrounding dense absorbers.
For this purpose experiments were carried out on the summit of a moun-
tain of 4000 m height. A pair of photoplates was exposed in the course of
2 months on a mast of 2 m height, and a second pair was exposed in immed-
iate contact with the surface of the ground. After chemical treatment
(development and fixing) these plates were examined under a microscope.
From table 1 it may be seen that the amount of π-mesons observed on the
photoplates which had been exposed on the ground is (from five to six ti-
mes) greater than that of the plates exposed on the mast. It follows here-
from that when investigating the generation of slow π-mesons by cosmic
radiation, all experimental emulsions must, if possible, be removed from
absorbers. Further, electron-sensitive photoplates of the NIKFI type we-
re exposed in the stratosphere in an altitude of from 25 - 27 km and on a
mountain (high 2.5 km). The results obtained by the exposure of 2 plates
in the stratosphere and one on a mountain are shown in table 2, which
contains also p-mesons. Not all p-mesons are also u-mesons. A part of the

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The Generation of Slow π-mesons by Particles of Cosmic Radiation.

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negative π-mesons (~27 %) produces no visible stars, which are contained in the number of p-mesons. Table 2 shows that the number of slow mesons rises with an increase of the strength of the lead absorber if the number of u-mesons does not depend on the modification of the strength of the lead at all. The number of nucleons plays an important part with respect to the dependence of the pier section of the generation of slow mesons on the atomic weight of the absorbers. The generation section of the π-mesons diminishes with an increase of the atomic weight of the substance of the target, because in an altitude of 3240 m the greater part of the protons (~90 %) has an energy that is less than I BeV, and only 10 % can be ascribed to protons with energies above I BeV. It is to be presumed that the neutrons of cosmic radiation have the same energy in these altitudes. Herefrom it may be seen that the average energy of the nucleons of cosmic radiation in these altitudes is only a little more than the energy of protons. The cross section of the generation of π-mesons at a proton energy of ~400 MeV is proportional to the geometric cross section of the nucleus. A special experiment was carried out on the top of a mountain (2500 m) with an exposure of 2 months. Thin absorbers of lead and aluminum and photoemulsions of the NIKFI type with a thickness of 400 µ were used. The absorbers were cylindrical. From the results, as shown by table 3 it may be seen that the number of π-mesons decreases to a smaller extent than was expected.

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The Generation of Slow π-Mesons by Particles of Cosmic Radiation.

For the purpose of explaining the nature of meson-generating particles the dependences on altitude of their generation was investigated. Photoemulsions were exposed in various altitudes which were covered with a lead layer of 2 cm thickness. Of all stratospheric flights undertaken for the determinations of the dependence on altitude of the generation of π-mesons only such flights were utilized in the case of which the time of drift exceeds the time of the ascent and the descent of the apparatus by the fourfold. In conclusion results obtained in connection with positive and negative π-mesons are discussed. Herefrom information is also obtained concerning the nature of generating particles. All regular processes are easily to be explained if one assumes that the major part of the slow mesons is formed by neutrons. The participation of protons in the formation of π-mesons increases with the increase of the energy of π-mesons.

ASSOCIATION Physical Institute of the Academy of Science of the U.S.S.R.
PRESENTED BY
SUBMITTED 20.7.1956
AVAILABLE Library of Congress
Card 3/3

SOV/56-35-3-59/61

21(7)

AUTHORS: Kaipov, D. K., Shakhvorostov, V. N., Kosyak, Yu. G.

TITLE: The Production of π-Mesons in Condensed Media by Particles of Cosmic Rays in the Stratosphere (Generatsiya π-mezonov v kondensirovannykh sredakh chastitsami kosmicheskikh luchey v stratosfere)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 3, pp 825-826 (USSR)

ABSTRACT: The present paper deals with the production of very slow pions in condensed media by cosmic rays in the stratosphere. As detector of the slow mesons photoemulsions of 400 μ thickness without a base were used, and aluminum and lead of different thicknesses served as a target. The photoemulsions, which were placed between two aluminum- or lead plates, were conveyed into the stratosphere in spherical probes, and were irradiated by particles of cosmic rays for the duration of 12 hours in altitudes of 28 to 30 km. On these photoplates the $\pi \rightarrow \mu$ decays and the σ-captures were then fixed. The results obtained by checking are compiled in a table. Geometrical conditions exercise an essential influence upon the result,

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The Production of π-Mesons in Condensed Media by Particles of Cosmic Rays in the Stratosphere

especially if the dimensions of the target and of the detector are about equal. The total number of mesons with an energy of less than E_0 is $N(< E_0) = aE_0^{1,6}$. The relative production cross sections of mesons for different thicknesses of the target and the values of the coefficient a are compiled in a table. The relative cross section σ_{Pb}/σ_{Al} increases with decreasing E_0. For low-energy mesons this cross section is probably greater than the geometric relative cross section $\sigma_{Pb}/\sigma_{Al} = 3,9$. The authors thank R. Suzhikova for her assistance in checking the photoemulson. There are 2 tables and 4 references, 1 of which is Soviet.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk Kazakhskoy SSR
(Institute of Nuclear Physics of the Academy of Sciences, Kazakh SSR)

SUBMITTED: May 18, 1958

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KAIPOV, D.K.; L[illegible]OV, K.G.

Aleksandr Stepanovich Popov, great Russian scientist. Vest. AN Kazakh. SSR 15 no.4:[illegible] '59. (MIRA 12:7)
(Radio)

KAIPOV, D.K

[illegible]

PHASE I BOOK EXPLOITATION SOV/5410

Trudy Konferentsii po mirnomu ispol'zovaniyu atomnoy energii, Tashkent, 1959.

(Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960. [illegible] p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Uzbekskoy SSR.

Responsible Ed.: S. V. Starodubtsev, Academician, Academy of Sciences Uzbek SSR. Editorial Board: A. A. Abdullayev, Candidate of Physics and Mathematics; D. M. Abdurasulov, Doctor of Medical Sciences; U. A. Arifov, Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological Sciences; V. N. Ivashev; G. S. Ikramova; A. Ye. Kiv; [illegible] [illegible]ev, Candidate of Physics and Mathematics; A. I. Nikolayev, Candidate of Medical Sciences; D. Nishanov, Candidate of Chemical Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

1/20

Transactions of the Tashkent (Cont.) SOV/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE : The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

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instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

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RADIOACTIVE ISOTOPES AND NUCLEAR RADIATION IN ENGINEERING AND GEOLOGY

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Akkerman, A. F., P. L. Cuzika, and D. K. Kaipov [Institute of Nuclear Physics KazSSR]. Application of Monte Carlo Method for the Investigation of Gamma-Quanta Passage Through a Substance 212

Grumbkov, A. P., and G. S. Semenov [Institut geologii i razrabotki goryuchikh iskopayemykh AN SSSR - Institute of Geology and Production of Mineral Fuels AS USSR]. Radiometric Apparatus Used in Prospecting for Oil and Gas 220

Card 11/20

33108
S/638/61/001/000/034/056
B116/B102

21,6001

AUTHORS: Dombrovskaya, G. S., Kaipov, D. K., Shubnyy, Yu. K.

TITLE: Resolution of a scintillation spectrometer

SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent, 1961, 229-236

TEXT: A study has been made of the effect of the individual processes occurring in the detector on the resolution of a scintillation spectrometer, of the relationship between these processes, and of the influence of the mode of operation on the resolution. It has been assumed that the statistical fluctuations of the pulse heights at the output of the detector (crystal + photomultiplier) are chiefly due to the fluctuation of the number of photons emitted from the device, and to the fluctuation of the number of electrons emitted from the photocathode of the photomultiplier. In addition, it has been assumed that the statistical processes taking place in the crystal and in the photomultiplier are independent of one another. The resolution of the detector is destined by the halfwidth

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R (in %) of the photopeak. For the resultant half width R_{total} one finds $R_{total} = \sqrt{R^2_{crystal} + R^2_{photomultiplier}}$ (5), whereby the contribution of each part of the detector to the resolution can be investigated. The contribution of the crystal can be separated with the pulse source. It has been found that (1) losses of resolution occur in the crystal itself and are not caused by the photomultiplier; (2) the resolution is enhanced by an increase in the number of electrons, which is determined by the intensity of the light pulse; (3) considerable losses of resolution are due to the decrease in light intensity by the scintillator itself; (4) the losses of light depend on the properties of the crystal and on the shape of the crystal and the cathode. The optimum thickness is determined by the transparency of the crystal to its own radiation. The optimum parameters of the photomultiplier were determined with a special arrangement, in which the photocathode was illuminated by the pulse source. The light modulation was replaced by a modulation of the electron flux of the photomultiplier, which was achieved by applying a pulse voltage to the first dynode of the photomultiplier. The light-pulse hight was selected by placing the CsI(Tl) crystal on the photocathode of the photomultiplier

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Resolution of a scintillation ...

and irradiating it with γ-quanta of Zn^{65} (E_{γ} = 1.12 Mev). Subsequently, the largest amplitude was measured, the crystal removed, and the photocathode illuminated with light pulses. The generator pulses had the same duration and frequency as the pulses used for the photomultiplier with the CsI(Tl) crystal and the Zn^{65} source. It is shown that the resolution is influenced chiefly by the number of photoelectrons reaching the first dynode, and that optimum conditions exist for an effective collection of photoelectrons from the cathode. The highest pulse amplitude and the best resolution (6-16%) were observed in the range of 20-30 v. At high supply voltages, this range is a little smaller. The resolution is only slightly improved by an increase in voltage (1% at most). A change in potential between successive dynodes affects the resolution less than a change in potential between the cathode and the shutter. The new technique allows the resolution of the photomultiplier to be determined without any difficulty. The most important requirement for high resolution is an effective focusing. There are 9 figures, 3 tables, and 8 references: 4 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: Borkovsky, G., Clark, R. Rev. Sci. Instr., 24, 1046, 1953; Kiehn, R., Goodman, C. Phys. Rev., 95, 989, 1954; Kelley, G.

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33108
S/638/61/001/000/034/056
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Resolution of a scintillation ...

G., Bell, P. R. and others. Nucleonics, 14, 53, 1956; Godlooe, T. F., Nadev, W. G. Rev. of Sci. Instr., 25, 1, 1954.

ASSOCIATION: Institut yadernoy fiziki AN KazSSR (Institute of Nuclear Physics AS Kazakhskaya SSR)

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67275

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~~21~~

SOV/31-60-1-7/20

AUTHOR: Kaipov, D.K., Candidate of Physico-Mathematical Sciences

TITLE: One Possibility to Increase the Resonance Scattering Cross Section of Gamma Rays on Nuclei

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, 1960, Nr 1, pp 51-53

ABSTRACT: The author wants to draw the attention to a new method to obtain resonance scattering on nuclei with gamma rays, which may prove more efficient than those presently practiced. The method is being tested in the author's laboratory and the results of the experiments will be published later. The author assumes A and B as identical nuclei with the excitation energy E*, A being a radioactive nucleus of nucleus B, which emanating a γ- quantum changes to the ground state B. In order to realize resonance scattering on the basis of nucleus B, γ-rays emanated by A are directed to B. The author derives three formulae, which consider the energy losses of the quantum during emanation and the thermal movements of emitter and

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One Possibility to Increase the Resonance Scattering Cross Section of Gamma Rays on Nuclei

scatterer nuclei (1), the distribution of the relative velocities of emitter and scatterer nuclei (2) and the energetic distribution of the γ-quanta (3). On the basis of equation (3) it is possible to calculate the mean value of resonance scattering with the formula

$$\bar{\sigma} = \sigma_{max} \cdot g_0 P (E^* + E^{*2}/2Mc^2) \cdot \frac{1}{2} \pi \cdot \Gamma \qquad (4)$$

($\sigma_{max} = \frac{\lambda^2}{2\pi}$; λ - wavelength of incident γ-quantum; $g_0 = \frac{2J^* + 1}{2J_0 + 1}$; J^* and J_0 - spins of excited and ground state; Γ - width of excited level). Graph 1 gives the energetic distribution of γ-rays emitted from the level 411 kev of isotope Au^{198} for two temperature values, when

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One Possibility to Increase the Resonance Scattering Cross Section of Gamma Rays on Nuclei

Au^{198} and Hg^{198} were taken as emitter and scatterer respectively, and for two temperature values, when emitter and scatterer were selected in the form of molecular compounds of a mass ≈ 490. The graph and equation (4) show that the use of a molecule emitter and a molecule scatterer at room temperature increases the resonance scattering cross section approximately by three times as compared with the resonance scattering cross section at a source temperature of 1100° C, if source and scatterer are selected in the form of Au^{198} and Hg^{198} atoms respectively. A slight temperature rise of the molecular source still increases the probability of resonance scattering. The value of the new method, however, mainly consists in the fact that the experiments can be successfully carried out without heating of the source. It was further observed that at low γ- quantum energies and low source temperatures

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S/707/60/003/000/007/013
B125/B102

26.2246

AUTHORS: Akkerman, A. F., Kaipov, D. K.

TITLE: Calculation of γ-quantum transmission through matter by the Monte Carlo method

SOURCE: Akademiya nauk Kazakhskoy SSR. Institut yadernoy fiziki. Trudy. v. 3, 1960. Vzaimodeystviye vysokoenergichnykh chastits s atomnymi yadrami, 106-114

TEXT: The calculation of the transmission of γ-quanta through matter by the Monte Carlo method is reduced to finding the single statistically independent elementary interactions with the atoms of the medium by "selection" (rozygrysh) from the distributions of the site of interaction, from the type of process (Compton scattering or photoeffect), from the energy after scattering and from the azimuthal angle. On the path r, the γ-quantum interacts with the probability $P_1 = 1-e^{-\mu r}$ (1). The absorption coefficient $\mu = \sigma_{total} \cdot n = (z\,\sigma_k + \sigma_\phi)n$ depends on the chemical composition of the absorber and on the energy of the incident γ-quantum.

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σ_k is the total cross section of Compton scattering per electron, σ_ϕ is the photoeffect cross section and n the number of atoms per 1 cm^3 of matter. σ_k and σ_ϕ were calculated for 0.040 Mev - 1.25 Mev according to A. I. Akhiyezer and V. B. Berestetskiy (Kvantovaya elektrodinamika. M., GITTL, 1953). At $r < 20$ cm, interaction took place within the absorber. The probabilities for a resulting photoeffect or Compton effect are given by $P_z = \sigma_\phi/(z\,\sigma_k + \sigma_\phi)$ (4) and $1 - P_2$, respectively. A γ-quantum of the energy α_o will have the energy e/α after scattering with the probability

$$P_3 = \int_{\alpha}^{\alpha_o} (d\sigma/d\alpha)\cdot d\alpha \Big/ \int_{\alpha_{min}}^{\alpha_o} (d\sigma/d\alpha)\cdot d\alpha \quad (7),$$

where $d\sigma/d\alpha$ denotes the differential cross section of Compton scattering. The scattering angle is $\cos\omega = 1 - \frac{\alpha_o - \alpha}{\alpha_o \alpha}$. The probability of scattering about the azimuthal angle χ is $P_4 = \chi/360^\circ$ in the case of isotropic scattering. The coördinates of the interaction point are to be calculated from (12), where r_{n+1} is the distance between n and n+1 collisions. In the following the data calculated by the Monte Carlo method for the transmission of γ-quanta with $\alpha = 2.447$ through aluminum sheets 10 and 20 cm thick, infinitely extended in the x and y directions are given: Total number of γ-quanta: 130 and 160; number of forward scattered γ-quanta: 38 and 20, respectively; number of backscattered γ-quanta: 31 and 32, respectively; number of γ-quanta transmitted without interaction: 33 and 12, respectively. 2 and 4 tracks, respectively have not been traced; number of cases with photoeffect: 46 and 82, respectively. The spectrum of the photoabsorbed γ-quanta shown in Fig. 4 has a sharp peak at 0.075 Mev. Up to thicknesses of 9-11 cm, the soft component is accumulated and then its intensity decreases slowly. When γ-quanta reach energies of $\alpha = 0.125$, the resulting photoeffect causes strong absorption. 20 % of the incident total radiation are backscattered. The angular distribution of single-scattered γ-quanta in aluminum 10 cm thick, is anisotropic with respect to the direction of motion of γ-quanta. There are 10 figures and 13 references: 5 Soviet and 8 non-Soviet. The four most recent references to English-language publications read as

S/707/60/003/000/008/013
B125/B102

24641 0

AUTHORS: Dombrovskaya, G. S., Kainov, D. K., Shubnyy, Yu. K.

TITLE: Luminescence spectrometer for examining γ-spectra of radioactive nuclei

SOURCE: Akademiya nauk Kazakhskoy SSR. Institut yadernoy fiziki. Trudy. v. 3, 1960. Vzaimodeystviye vysokoenergichnykh chastits s atomnymi yadrami, 115-123

TEXT: The luminescence spectrometer consists of a scintillator crystal, a photomultiplier and an electrical apparatus for measuring the distribution of the pulses arising. Fig. 1 shows the block diagram of this amplifier, consisting of outlying block (with crystal, photomultiplier, and cathode repeater, circuit see Fig. 2) and principal block (with amplifier, Fig. 3 and differential analyzer, Fig. 4). The linear amplifier operates according to the cascade diagram with negative feedback, has a pass band of 1 Mc/sec and the amplification factor 100. In the pulse-height analyzer a tube of type Л6 (L6) serves as integral analyzer with variable boundary level and tubes of the types Л8 (L8) and

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Luminescence spectrometer for...

Л9 (L9) as discriminator. The circuit $R_{17}C_{51}$ replaces the non-existent anticoincidence cascade. The current for the electronic circuit is supplied via a stabilized rectifier (300 v; 160 ma). The resolving power of the scintillation spectrometer is very dependent on the quality of the multiplier and its mode of operation. The fluctuation of the amplification factor of the multiplier is affected substantially by the amplification factor of the first cascade. Most of the ФЭУ-29 (FEU-29) type multipliers investigated exhibit the satisfactory resolving power of 22-26 %. NaI(Tl) and CsI(Tl) crystals set in aluminum were used. Using CsI(Tl) crystals, the resolving power for Hg^{203} and Zn^{65} amounts to 27 and 12 %, respectively and to 24 and 10 %, respectively if NaI(Tl) crystals are used. Owing to its satisfactory properties, the γ-spectrometer described in the present paper can be used successfully in nuclear spectroscopy. Further studies of interaction of γ-radiation with matter and of short-lived isotopes by the method of delayed coincidences are planned by the authors. V. Kim is thanked for adjusting the electronic circuit and for recording the spectra. There are 15 figures and 8 references: 4 Soviet and 4 non-Soviet. The four references to English-language publications read as

Card 2/6

follows: R. Cook, Amer. Scient., 45, 3, 245, 1957; R. E. Connaly, Analyt. Chemistry, 28, 12, 1847, 1956; W. Bernard and R. Linden, Nucl., 11, 9, 1953; R. E. Connaly and M. B. Lebout, Analyt. Chemistry, 25, 7, 1095, 1953.

Legend to Fig. 1: Luminescence spectrometer block diagram: (1) scintillator, (2) photomultiplier, (3) linear amplifier, (4) pulse-height analyzer, (5) counting device.

Legend to Fig. 2: Outlying block diagram [Abstracter's note: Owing to their large number the single control elements of the Figs. 2, 3, and 4 cannot be indicated].

Legend to Fig. 3: Linear amplifier circuit

Legend to Fig. 4: Circuit of the single-channel differential pulse-height analyzer